IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Callaghan et al.   : Group Art Unit: 2161

Serial No.: 09/050,841   : Examiner: Elisca, Pierre E.

Filed: March 30, 1998   : Appeal No.:

For: METHOD, SYSTEM AND PROGRAM PRODUCTS FOR SHARING STATE
     INFORMATION ACROSS DOMAINS

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Date of Signature: May *07*, 2002

Board of Patent Appeals and Interferences
Assistant Commissioner for Patents
Washington, D.C. 20231

Brief of Appellants

Dear Sir:

This is an appeal from a final rejection dated November
2, 2001 rejecting claims 1-7, 9-27 and 29-52, all the claims
being considered in the above-identified application. This
Brief is accompanied by a check comprising payment of the
requisite fee set forth in 37 C.F.R. §1.17(c).

EN998017   -1-

Real Party In Interest

This application is assigned to **International Business Machines Corporation** by virtue of an assignment executed on March 30, 1998 by the co-inventors, and recorded with the United States Patent and Trademark Office at reel 9125, frame 0890, on March 30, 1998. Therefore, the real party in interest is **International Business Machines Corporation**.

Related Appeals and Interferences

To the knowledge of the appellants, appellants' undersigned legal representative, and the assignee, there are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the instant appeal.

Status of Claims

This patent application was filed on March 30, 1998 with the United States Patent and Trademark Office. As filed, the application contained fifty (50) claims, of which nine (9) were independent claims (i.e., claims 1, 10, 18, 22, 30, 38, 42, 47 and 50).

In an initial Office Action dated January 7, 2000, claims 1-4, 6, 7, 22-24, 26, 27 and 42-46 were rejected under 35 U.S.C. §102(a) as being anticipated by Rosenberg (WO 98/09447); claims 18-19, 38-39 and 50 were rejected under §102(a) as being anticipated by Giacoppo

("http://www.dejanews.com", Forum: comp.lang.java.announce,
Thread: ad/soft/CheckOut - shopping cart applet, 8/8/97);
claims 5, 8, 10, 11-17, 25, 28, 30-37, 47-49 were rejected
under 35 U.S.C. §103(a) as being unpatentable over Rosenberg
in view of Davis et al. (U.S. Patent No. 5,796,952); claims
9 and 29 were rejected under 35 U.S.C. §103(a) as being
unpatentable over Rosenberg in view of Susuki et al. (U.S.
Patent No. 5,946,665); claims 20 and 40 were rejected under
35 U.S.C. §103(a) as being unpatentable over Giacoppo in
view of Krick ("A cookie for your thoughts: cookies help
Webmasters harness user habits. (Internet /Web/Online
Service Information)(Tutorial)", Computer Shopper, v17, n7,
p610(1)); and claims 21 and 41 were rejected under 35 U.S.C.
§103(a) as being unpatentable over Giacoppo in view of Davis
et al. In appellants' response mailed April 26, 2000, a
one-month extension of time was requested and independent
claims 10, 18, 30, 38, 47 and 50 were amended.

In a second and final Office Action dated July 19,
2000, claims 1-4, 6, 7, 22-24, 26, 27, 42-46 were rejected
under 35 U.S.C. §102(a) as being anticipated by Rosenberg;
claims 18-19, 38-39 and 50 were rejected under 35 U.S.C.
§102(a) as being anticipated by Giacoppo; claims 5, 8, 10,
11-17, 25, 28, 30-37 and 47-49 were rejected under 35 U.S.C.
§103(a) as being unpatentable over Rosenberg in view of
Davis et al.; claims 9 and 29 were rejected under 35 U.S.C.
§103(a) as being unpatentable over Rosenberg in view of
Susuki et al.; claims 20 and 40 were rejected under 35
U.S.C. §103(a) as being unpatentable over Giacoppo in view
of Krick; and claims 21 and 41 were rejected under 35 U.S.C.

§103(a) as being unpatentable over Giacoppo in view of Davis et al. In appellants' response sent by facsimile transmission November 17, 2000, a one-month extension was requested and no claim amendments were made. A telephone interview between the Examiner and appellants' representative was conducted on November 30, 2000. No agreement was reached.

Pursuant to an Advisory Action dated December 15, 2000, appellants' remarks, received November 17, 2000 at the U.S. Patent and Trademark Office in response to the final Office Action, were not deemed to place the application in condition for allowance. A Notice of Appeal to the Board of Patent Appeals and Interferences was filed on December 19, 2000, accompanied by a further one-month extension of time request. Appellants filed a Continued Prosecution Application on March 19, 2001, along with a one-month extension of time request and a preliminary amendment that amended claims 1, 18, 19, 22, 38, 39, 42 and 50.

In a next Office Action dated May 30, 2001, claims 1 and 18 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential steps, while the dependent claims 2-9 and 19-21 were rejected because, by their dependency, they contain the language of the base claims. Claims 22, 38, 42 and 50 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential elements, while the dependent claims 23-29, 39-41 and 43-46 were rejected because, by their dependency, they contain the language of the base claims.

Claims 1-4, 6, 7, 22-24, 26, 27 and 42-46 were rejected under 35 U.S.C. §102(a) as being anticipated by Rosenberg. Claims 5, 8, 10, 11-17, 25, 28, 30-37 and 47-49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Davis et al.; claims 9 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Susuki et al.; claims 20 and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Giacoppo in view of Krick; claims 21 and 41 were rejected under 35 U.S.C. §103(a) as being unpatentable over Giacoppo in view of Davis et al.; and claims 18-19, 38-39 and 50 were rejected as being unpatentable under 35 U.S.C. §103(a) as being unpatentable over Giacoppo. In appellants' response mailed August 30, 2001, claims 8 and 28 were canceled, claims 51 and 52 were added, and claims 1, 5, 10, 18, 21, 22, 25, 30, 38, 41, 42, 47 and 50 were amended.

In a final Office Action dated November 2, 2001, claims 1-4, 6, 7, 22-24, 26, 27 and 42-46 were rejected under 35 U.S.C. §103(a) as being anticipated by Rosenberg in view of Davis et al.; claims 5, 10, 11-17, 25, 30-37 and 47-49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Davis et al.; claims 9 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Susuki et al.; claims 20 and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Giacoppo in view of Krick; claims 21 and 41 were rejected under 35 U.S.C. §103(a) as being unpatentable over Giacoppo in view of Davis et al.; and claims 18-19, 38-39 and 50 were rejected under 35 U.S.C. §103(a) as being unpatentable over

Giacoppo in view of Davis et al. In appellants' response sent via facsimile transmission on January 2, 2002, no claims were amended.

Pursuant to an Advisory Action dated February 1, 2002, appellants' remarks, received January 2, 2002 at the U.S. Patent and Trademark Office in response to the final Office Action were not deemed to place the application in condition for allowance.

A Notice of Appeal to the Board of Patent Appeals and Interferences was filed on March 1, 2002, accompanied by a one-month extension of time request. A telephone interview between the Examiner and appellants' representative was conducted on March 7, 2002. No agreement was reached. The status of the pending claims is therefore as follows:

Claims allowed - none
Claims objected to - none
Claims rejected - 1-7, 9-27 & 29-52
Claims canceled - 8 & 28

Status of Amendments

Appellants' remarks proferred in the Response to the final Office Action dated November 2, 2001 were entered upon filing of the Notice of Appeal and this Appeal Brief. However, no claim amendment was effectuated by the Response. The claims as set out in the Appendix include all prior entered amendments.

Summary of the Invention

The present invention is a particular technique that allows state information to be shared between non-cooperating domains of a multiple computer system environment (FIG. 1). "State information" includes information that allows communication between domains. In one embodiment, a cookie is used to store state information. (See page 11, lines 21-26 and page 13, lines 15-18 of the specification.) "Non-cooperating" domains mean domains that have no knowledge of one another and do not directly communicate state information between one another. (See page 11, lines 18-21 of the specification.)

The technique presented includes employing an intermediary application 110 (Fig. 1) to first determine the state information to be shared between non-cooperating domains (e.g., servers 112 (Fig. 1)), and then share the state information between those domains. This sharing of state information is accomplished by the intermediary application 110 without the domains themselves sharing a proprietary protocol or otherwise directly communicating state information between one another.

In another aspect, the invention comprises a technique for employing an intermediary application to determine a state information required by a client and/or a server, and then using the intermediary application to provide that state information to the client and/or the server. The intermediary application is disposed such that

communications exchanged between the client and the server pass through the intermediary application. By way of example, proxy server 202 (Fig. 2), acting as an intermediary application, determines that state information 206 is associated with one of the servers 204 (Fig. 2), and shares this information by adding a cookie 210 to a request 208 directed to that server 204, wherein the request 208 originated with a client (i.e., browser 200).

FIGs. 3-8d provide further examples and details of the above-summarized techniques.

Issues

1.   Whether claims 1-4, 6, 7, 22-24, 26, 27 and 42-46 were rendered obvious under 35 U.S.C. §103(a) by Rosenberg in view of Davis et al.

2.   Whether claims 5, 10, 11-17, 25, 30-37 and 47-49 were rendered obvious 35 U.S.C. §103(a) by Rosenberg in view of Davis et al.

3.   Whether claims 9 and 29 were rendered obvious under 35 U.S.C. §103(a) by Rosenberg in view of Susuki et al.

4.   Whether claims 20 and 40 were rendered obvious under 35 U.S.C. §103(a) by Giacoppo in view of Krick.

5. Whether claims 21 and 41 were rendered obvious under 35 U.S.C. §103(a) by Giacoppo in view of Davis et al.

6. Whether claims 18-19, 38-39 and 50 were rendered obvious under 35 U.S.C. §103(a) by Giacoppo in view of Davis et al.

7. Whether claims 51 and 52 are allowable, given that no substantive rejection has been provided by any Office Action.

Grouping of Claims

As to the rejections applied against claims 1-7, 9-27 and 29-52, it is appellants' intention that the rejected claims do not stand or fall together. For example, appellants respectfully submit that the following claim groups have separate basis for patentability:

I: Claims 1-4, 6, 7, 22-24, 26, 27, 42-46;
II: Claims 5, 10-17, 25, 30-37 & 47-49;
III: Claims 9 & 29;
IV: Claims 20 & 40;
V: Claims 21 & 41;
VI: Claims 18, 19, 38, 39 & 50; and
VII: Claims 51 & 52.

Argument

Group I: Claims 1-4, 6, 7, 22-24, 26, 27 & 42-46

As noted, claims 1-4, 6, 7, 22-24, 26, 27 & 42-46 stand rejected as obvious over Rosenberg in view of Davis et al. Reversal of this rejection is respectfully requested.

As noted, this invention is directed to a cross-domain sharing capability wherein state information is shared across non-cooperating domains. The phrase "non-cooperating domains" has been extensively defined in the application and the file history, and is recited in independent claims 1, 22 & 42 to mean that the domains have no knowledge of one another <u>and</u> do not directly communicate state information between one another. Rather, the necessary state information for the communication to occur is determined by and provided through an intermediary application. Since the applied art does not teach or suggest the above-noted concepts, appellants respectfully request reversal of this obviousness rejection.

In Rosenberg, state information is shared across cooperating domains, and not across non-cooperating domains. For instance, Rosenberg explicitly states on page 4, lines 30-31: "In particular, the technique of the invention allows all <u>cooperating</u> servers to share information via a database (emphasis added)." Further, on page 7, lines 1-2, Rosenberg explicitly states: "The present invention operates by having a group of related server computers, say server computers

24A-24N, <u>cooperatively</u> observe a common protocol...
(emphasis added)." Further, on page 7, lines 7-9, it is
stated: "That is, in accordance with the invention,
persistent client-side state (cookie) security features are
avoided to allow <u>cooperating</u> server computers with distinct
domain names to process state information associated with a
browser (emphasis added)." Thus, it is clear from the
reference that although the servers have distinct domain
names, they are cooperating servers. They are cooperating
because they communicate a proprietary protocol between one
another and have knowledge of one another. The proprietary
protocol consists of generating, distributing, understanding
and using, with the shared database, the unique identifier
value.

Appellants' invention is distinct because no such
cooperation or common and proprietary protocol is needed to
share state information. This is what makes appellants'
invention different. Thus, while in the past, cooperation
was necessary, as the prior Office Actions contend,
appellants invention changes that notion. Instead of
cooperation among servers to share state information,
appellants use, for example, an intermediary application
between the client and the various servers, which is used to
share the state information between the servers. This is
shown clearly in FIG. 7a and FIG. 7b of appellants'
specification where the userid and password used to logon
the www.ibm.com server (step 730 of FIG. 7b) is shared with
the private.lotus.com server (step 750 of FIG. 7b) <u>without</u>
<u>either server knowing that the sharing is taking place</u>.

When two servers use different protocols, the intermediary application converts the protocol of one server to the protocol of the second server before sharing the information. This allows for the sharing of information between two servers simultaneously using different protocols. Thus, in this aspect of appellants' claimed invention, the domains need not be and are not cooperating or using a common and proprietary protocol.

An advantage of the present invention can clearly be seen when considering the required steps to implement the two inventions. Rosenberg requires the servers to interpret the same cookies and write to a common database, therefore code must be installed at all of the servers to implement this functionality. For this aspect of appellants' invention, the servers remain unchanged. Rather, an intermediary application is installed between the client and the servers. All of the functionality required to share the state information is contained in the intermediary application.

The final Office Action states that Rosenberg teaches that a unique identification value is generated at the first domain (server) and then conveyed to each domain (server) that the client browser visits (page 7, lines 24-33 of Rosenberg). Clearly, Rosenberg fails to meet appellants' characterization of "non-cooperating domains" by this teaching since the domains will have express knowledge of each other through the unique identification value. Again, appellants define non-cooperating domains as both domains

having (1) no knowledge of one another and (2) domains which do not directly communicate state information between one another. The express teachings of Rosenberg means that the domains described therein do not meet this characterization of appellants' claimed invention.

In making the obviousness rejection, the final Office Action further cites the teachings of Davis et al. Initially, appellants note that Davis et al. is not cited in the Office Action relative to the above-noted "non-cooperating domains" characterization of appellants' invention. Thus, for the reasons set forth above, appellants respectfully submit that the combination of Rosenberg and Davis et al. fails to suggest or imply appellants' invention as set forth in independent claim 1. In Davis et al., cooperating servers are disclosed which communicate using a proprietary protocol. Based on this, Davis et al. describes cooperating domains and is therefore distinguishable from appellants' claimed invention.

The final Office Action cites Davis et al. as allegedly teaching another noted deficiency of Rosenberg as applied against the independent claims at issue. Specifically, Rosenberg is noted as failing to disclose that the recited sharing further comprises receiving by an intermediary application the request from a client prior to the adding, wherein the adding and the sending are performed by the intermediary application. As discussed further below, appellants respectfully submit that Davis et al. does not disclose an intermediary application as the phrase is

defined and used in the present application. In appellants'
invention, the intermediary application acts as a middleman
between a client and a server. In comparison, in Davis et
al., the tracking program described therein is not disposed
between a client and a server to receive transmissions
exchanged between the client and the server, as described in
greater detail below. For this additional reason,
reconsideration and withdrawal of the obviousness rejection
to appellants' claim is respectfully requested.

The dependent claims at issue are believed patentable
for the same reasons as their respective independent claim,
as well as for their own additional features.

In this regard, appellants note that at page 8 of the
final Office Action, the Examiner states: "In the World Wide
Web, it is inherently required that servers use the common
protocol across distinct domain if information is to
transfer from one server to the other, even servers across
domain that are not cooperating to each other still needs to
use common protocol in order to share information".
Applicants respectfully, but most strenuously, traverse this
conclusion. In the World Wide Web common protocols are
employed for clients (browsers) and servers to communicate.
However, servers of the World Wide Web do not share
information with servers that they have no knowledge of in
other distinct domains. The cookie protocol does not allow
for it. Cookies can only be shared between servers with
host names that end with the same tail (with a minimum of
two dots in the US (e.g. ".krick.com") and with a minimum of

three dots outside of the US (e.g. ".krick.co.uk")). This is described in the article by John Krick, entitled "A cookie for your thoughts: cookies help Webmasters harness user habits" (Computer Hopper, v17, n7, p610), in the section describing the "domain=DOMAIN" option. The cookie protocol allows for cookies to be set for a specific domain so that whenever a browser communicates with a server in the same domain, the cookie(s) is sent automatically. However, the cookie(s) is not sent to servers in other domains when a browser communicates with them.

For all the above reasons, appellants respectfully request reversal of the obvious rejection of claims 1-4, 6, 7, 22-24, 26, 27 & 42-46.

Group II: Claims 5, 10-17, 25, 30-37 & 47-49

Claims 5, 10-17, 25, 30-37 & 47-49 were also rejected by the Examiner as obvious over Rosenberg in view of Davis et al. Reversal of this rejection is respectfully requested.

In a further aspect of appellants' invention (e.g., recited in independent claims 10, 30 & 47), an intermediary application determines and provides state information to a client and/or a server. This intermediary application is disposed to receive transmissions exchanged between the client and the server, and provides the necessary state information to the client and/or the server.

For example, a request being sent to a server application from a client application is received by an intermediary application. The intermediary application upon receiving the request, adds state information to the request, and then, forwards the request with the state information to the server application. Then, as a further example, the server application responds to the request and that response is received by the intermediary application. The intermediary application then forwards the response on to the client application. Thus, in this aspect of applicants' invention, the intermediary application acts as a middleman between the client and server, and determines and provides the state information necessary for the client and server to communicate. This is in sharp contrast to the teachings of Rosenberg and Davis et al.

In particular, Rosenberg fails to disclose sharing of information using an intermediary application. Further, Davis et al. does not overcome this deficiency of Rosenberg.

Davis et al. describes a method and apparatus for tracking client interaction with a network resource and creating client profiles and a resource database. In order to perform the tracking, a tracking program is used, which is downloaded from a server to the client. That is, "[t]he tracking program is downloaded from a server and runs on the client to monitor various indicia, such as elapsed time, mouse events, keyboard events, and the like...." (Column 4, lines 45-48). In particular, the tracking program tracks user interactions with a file, such as a web page, and

provides the information to the server. The tracking program is not disposed between a client and a server to receive transmissions exchanged between the client and the server.

Appellants respectfully submit that while the tracking program of Davis et al. provides information to the server, the tracking program is not an intermediary application handling communications between a client and a server. That is, the tracking program of Davis et al. is not in the communication path of the server and client, and does not receive transmissions exchanged between client and server programs.

In response to this position, the Examiner interprets Figure 5 as disclosing Server A as the client, Client as the intermediary application, and Server B as the server. Appellants respectfully submit that this is not what is shown in Figure 5, and any interpretation as such is a misinterpretation of Davis et al.

> In describing the figure, Davis et al. state that:
> Thus, <u>the client first issues a TCP/IP request</u> (S501). After a handshaking period, a first Server A begins to send an HTML formatted document which contains an embedded URL referencing the tracking program. <u>The client additionally issues a TCP/IP request to a second Server B</u> referenced by the embedded URL in order to obtain the tracking program (S502B)... When the tracking program has been obtained, the client process (i.e. the Web browser) saves the tracking program to RAM (S503B)... When the user performs another predetermined action (S505), the tracking program calculates the amount of time between the

> predetermined user actions, and sends this
> information, along with other available client
> information, to the server.

Col. 13, lines 24-26 (emphasis added).

This discussion clearly states that the Figure shows
the client as initiating communications with both Server A
and Server B. Server A does not communicate with Server B
through the client as maintained in the final Office Action.
Additionally, the discussion of the tracking program reveals
that it does not act as an intermediary between client and
either of the Servers, but rather initiates its own,
independent communications with one of the servers, as
previously submitted by appellants. Thus, appellants'
claimed intermediary application is very different from the
tracking program of Davis et al.

At pages 24 & 25 of the Office Action of May 30, 2001,
it is alleged that Davis teaches client information as
captured and transmitted to a second server (FIG. 6, item
(607A)), and therefore that appellants' recitation is met.
This characterization of the teachings of Davis is
respectfully traversed for the above-noted reasons.
Specifically, the client transfers information directly to
the server in Davis et al., there is no intermediary
application disposed in a communication path as is the case
with appellants' intermediary application. For this reason,
appellants respectfully request reconsideration of the
applicability of the Davis patent to the teachings of the
recited invention. In appellants' invention, the phrase
"intermediary application" means that all communications

between the client and server pass through the intermediary application, i.e., the client does not directly communicate with the server. Such a system is clearly lacking from the teachings of the applied patents.

Since the tracking program of Davis et al. is not disposed to receive transmissions exchanged between the client and the server, but instead simply monitors the user's interaction (e.g., keyboard presses, mouse clicks) with the client, Davis et al. does not teach or suggest appellants' claimed invention. Further, since Rosenberg and Davis et al. fail to describe an intermediary application at all, the combination of Rosenberg and Davis et al. fails to teach or suggest appellants' claimed invention.

Based on the foregoing, appellants respectfully request reversal of the obviousness rejection to claims 5, 10-17, 25, 30-37 & 47-49.

Group III: Claims 9 & 29

Claims 9 & 29 stand rejected as obvious over Rosenberg in view of Suzuki et al. Reversal of this rejection is also respectfully requested.

Claims 9 & 29, which depend from independent claims 1 & 22 are believed patentable for the same reasons discussed above in connection with the Group I claims. A careful reading of Suzuki et al. fails to uncover any suggestion or

implication of the above-noted deficiencies of Rosenberg when applied against independent claims 1 & 22.

Suzuki et al. is cited in the final Office Action as disclosing items to be purchased in an on-line virtual shopping mall, wherein a first domain represents a first vendor of the on-line virtual shopping mall, and a second domain represents a second vendor of the on-line virtual mall.

Without acquiescing to the Examiner's characterizations of the teachings of Suzuki et al., appellants note that claims 9 & 29 further characterize the state information which is determined and provided by the intermediary application recited in the respective independent claims. Thus, in appellants' invention, state information is representative of at least one of log-in credentials to be used when accessing the first domain and the second domain; and items to be purchased in an on-line virtual shopping mall, wherein the first domain represents a first vendor and the second domain represents a second vendor. Again, in this environment, appellants recite that the intermediary application determines the state information and shares the state information between the first domain and the second domain. These domains or vendors are recited to comprise non-cooperating domains, meaning that the domains have no knowledge of one another and do not directly communicate the state information between each other. Rather, the state information is determined by the intermediary application and provided to the respective domain.

For the above reasons, reversal of the rejection to claims 9 & 29 is requested.

Groups IV, V & VI: Claims 18-21, 38-41 & 50

Group IV claims 20 & 24 stand rejected as obvious over Giacoppo in view of Krick, while Group V claims 21 & 41 are rejected as obvious over Giacoppo in view of Davis et al., and Group VI claims 18, 19, 38, 39 & 50 are rejected as obvious over Giacoppo in view of Davis et al. Reversal of each of these rejections is respectfully requested.

The aspects of appellants' claimed invention relate to a virtual on-line shopping mall, wherein a purchaser selects items from different vendors and those items are added to a single shopping cart, such that the purchaser only has to check out once. Advantageously, the purchaser is relieved from some of the actions that would typically take place in such a purchase. For example, the purchaser need not provide to a vendor the items purchased at another vendor. Instead, this task is taken care of by, for example, an intermediary application. For instance, the intermediary application (e.g., a proxy server) is in charge of placing the selected items in a shopping cart and thus, relieves the purchaser of the burden of explicitly forwarding the list of items to be purchased between the different vendors.

In one example, applicants' claim 18 states a method of electronic shopping, which includes, for instance, selecting, by a purchaser, a plurality of items to be

purchased electronically from a plurality of vendors, wherein the plurality of vendors are represented by a plurality of web sites; and purchasing the plurality of items on-line via a single checkout, wherein an indication of the items to be purchased need not be moved, by the purchaser, between the plurality of vendors. Thus, in applicants' claimed invention, the purchasers are relieved from the task of explicitly forwarding a list of the items to be purchased between the vendors. Instead, this task is handled by another entity, such as an intermediary application.

In addition, claim 18 recites that the plurality of vendors comprise a plurality of non-cooperating domains, wherein the non-cooperating domains have no knowledge of one another and wherein the non-cooperating domains do not directly communicate state information between one another. Thus, appellants believe that this claim is allowable for the same reasons stated initially herein with respect to the Group I claims.

In contrast to appellants' claimed invention, the Giacoppo reference specifically teaches that the shoppers need to take their orders to other checkout stores if wanting to purchase multiple items from different stores at one checkout. Thus, the shoppers are straddled with the task of providing this list from one vendor to the other. In one aspect of appellants' invention, the purchaser is relieved of this task, and instead the intermediary application, moves the list between the vendors. Further, a

careful reading of Giacoppo fails to uncover any discussion that the plurality of vendors comprise a plurality of non-cooperating domains as expressly recited by appellants. The vendors in Giacoppo are cooperating because they are all running CheckOut! software. Therefore, they are communicating in a proprietary protocol and would have knowledge of one another. Again, non-cooperating domains are recited to comprise domains having no knowledge of one another <u>and</u> wherein the non-cooperating domains do not directly communicate state information between one another, but rather share state information via an intermediary application.

Appellants respectfully submit that there is no teaching in the Giacoppo reference of anything other than specifically requiring the users to explicitly move their order list from store to store. It is stated in Giacoppo:

> Vendors can also create a networked mall where <u>shoppers can take their Order List</u> to other CheckOut! stores on the same server or across the Internet to other servers running CheckOut! while keeping their Order List intact. (emphasis added)

This language specifically states that the order lists need to be brought from store to store by the shoppers. In contrast, appellants' invention does not require such explicit action by the users; and to state in the Office Action that it is inherent to use an intermediary application, as appellants have taught, is believed to be an

improper hindsight reconstruction based on appellants'
invention.

Thus, appellants note that Giacoppo fails to describe
appellants' claimed feature of purchasing a plurality of
items on-line via single checkout, wherein an indication of
the plurality of items to be purchased need not be moved by
the purchaser between the plurality of vendors, and that
Giacoppo teaches that the plurality of vendors comprise a
plurality of cooperating domains, wherein the cooperating
domains have knowledge of one another. For these reasons,
appellants respectfully submit that Giacoppo, either alone
or in combination with Davis of Krick would not have
suggested their recited invention to one of ordinary skill
in the art. The deficiencies of Davis et al. are described
in detail above in connection with Group I claims. The
Krick article is cited in the final Office Action for
disclosing one or more cookies representing the plurality of
items to be purchased. Without acquiescing to this
characterization the teachings of Krick, appellants
respectfully submit that the Krick article does not describe
or suggest any of the above noted deficiencies of Giacoppo
and Davis et al. when applied against these claims.

For all of the above reasons, reversal of the
obviousness rejections to claims 18-21, 38-41 & 50 is
requested.

Group VII: Claims 51 & 52

Claims 51 & 52 are not substantively rejected in the final Office Action. Each of these claims recite that the non-cooperating domains do not share a proprietary protocol. This language is believed to further clarify appellants' "non-cooperating domain" language, and thereby clearly distinguish the environment of the present invention from that described in the applied art.

In view of the recitations of claims 51 & 52, and since these claims are not substantively rejected in the final Office Action, an indication of allowability thereof is requested.

Conclusion

Appellants herein request reversal of each of the rejections set forth in the final Office Action. Appellants respectfully submit that their claimed invention was not obvious to one of ordinary skill in the art based upon Rosenberg or Giacoppo, either alone or in combination with Davis et al., Suzuki et al. and/or Krick. In support of their position regarding the claims, appellants note that no applied patent either addresses or solves the problem addressed by the present invention. For example, appellants describe sharing of state information within an environment where a first domain and a second domain are non-cooperating domains. The meaning of non-cooperating is expressly recited in the independent claims, i.e., the domains do not

have knowledge of one another <u>and</u> do not directly communicate state information between one another. Appellants describe a technique for sharing state information between non-cooperating domains using an intermediary application. The function of this intermediary application is alternatively recited in several of the independent claim sets. In addition, many of appellants' dependent claims provide further characterizations, which are clearly absent from the applied art. For all of the above reasons, appellants allege error in rejecting their claims as obvious based upon the applied art. Accordingly, reversal of all rejections is respectfully rejected.

Respectfully submitted,

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Appendix

1. A method of sharing state information, said method comprising:

determining by an intermediary application state information to be shared between a first domain and a second domain; and

sharing said state information between said first domain and said second domain, wherein said first domain and said second domain are non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, said sharing of state information being through the intermediary application.

2. The method of claim 1, wherein said state information is stored within one or more cookies.

3. The method of claim 1, wherein said first domain and said second domain are disjoint domains.

4. The method of claim 1, wherein said sharing comprises:

adding state information of said first domain to a request to be sent to said second domain; and

sending said request, including said state information, to said second domain.

5. The method of claim 4, wherein said sharing further comprises receiving, by the intermediary application, said request from a client prior to said adding, and wherein said adding and said sending are performed by said intermediary application.

6. The method of claim 1, wherein said sharing comprises:

adding state information of said first domain to a response associated with said second domain; and

sending said response, including said state information, to a client.

7. The method of claim 6, wherein said sharing further comprises saving said state information at said client, wherein said state information is saved for a specified range of Uniform Resource Locators associated with said second domain.

9. The method of claim 1, wherein said state information is representative of at least one of the following:

(a) login credentials to be used when accessing said first domain and said second domain; and

(b) items to be purchased in an on-line virtual shopping mall, wherein said first domain represents a first vendor of said on-line virtual shopping mall and said second domain represents a second vendor of said on-line virtual shopping mall.

10. A method of providing state information, said method comprising:

determining by an intermediary application state information to be provided to at least one of a client application (client) and a server application (server); and

using the intermediary application, that is disposed to receive transmissions exchanged between said client and said server, to provide said state information to said at least one of said client and said server.

11. The method of claim 10, wherein said using comprises:

receiving, by said intermediary application, a request from said client; and

sending a response to said request from said intermediary application to said client, said response including said state information.

12. The method of claim 10, wherein said state information is provided to said client, and wherein said method further comprises saving said state information at said client for any specified range of Uniform Resource Locators.

13. The method of claim 12, further comprising forwarding said state information saved at said client to said intermediary application.

14. The method of claim 12, further comprising saving said state information for one or more other range of Uniform Resource Locators.

15. The method of claim 10, wherein said using comprises adding said state information to a request for said server.

16. The method of claim 10, wherein said using comprises adding said state information to a response for said client.

17. The method of claim 16, further comprising saving, by said client, said state information for a specified range of Uniform Resource Locators.

18. A method of electronic shopping, said method comprising:

selecting, by a purchaser, a plurality of items to be purchased electronically from a plurality of vendors, said plurality of vendors comprising a plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, but share state information through an intermediary application; and

purchasing said plurality of items on-line via a single check out, wherein an indication of said plurality of items to be purchased need not be moved, by said purchaser, between said plurality of vendors.

19. The method of claim 18, further comprising placing said selected plurality of items in a shared shopping cart, said shared shopping cart being shared between said plurality of vendors.

20. The method of claim 19, wherein said shared shopping cart comprises one or more cookies representing said plurality of items to be purchased.

21. The method of claim 19, wherein said placing is controlled by the intermediary application coupled to said vendors.

22. A system of sharing state information, said system comprising:

means for determining by an intermediary application state information to be shared between a first domain and a second domain; and

means for sharing said state information between said first domain and said second domain, wherein said first domain and said second domain are non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, said means for sharing employing the intermediary application in sharing said state information between said first domain and said second domain.

23. The system of claim 22, wherein said state information is stored within one or more cookies.

24. The system of claim 22, wherein said means for sharing comprises:

means for adding state information of said first domain to a request to be sent to said second domain; and

means for sending said request, including said state information, to said second domain.

25. The system of claim 24, wherein the intermediary application is adapted to receive said request from a client

prior to said adding, and adapted to add said state
information to said request and to send said request.

26. The system of claim 22, wherein said means for
sharing comprises:

means for adding state information of said first
domain to a response associated with said second
domain; and

means for sending said response, including said
state information, to a client.

27. The system of claim 26, wherein said client is
adapted to save said state information for a specified
range of Uniform Resource Locators associated with said
second domain.

29. The system of claim 22, wherein said state
information is representative of at least one of the
following:

(a) login credentials to be used when accessing
said first domain and said second domain; and

(b) items to be purchased in an on-line virtual
shopping mall, wherein said first domain represents a
first vendor of said on-line virtual shopping mall and
said second domain represents a second vendor of said
on-line virtual shopping mall.

30. A system of providing state information, said system comprising:

means for determining by an intermediary application state information to be provided to at least one of a client application (client) and a server application (server); and

an intermediary application, that is disposed to receive transmissions exchanged between said client and said server, adapted to provide said state information to said at least one of said client and said server.

31. The system of claim 30, wherein said intermediary application is further adapted to:

receive a request from said client; and

send a response to said request to said client, said response including said state information.

32. The system of claim 30, wherein said state information is provided to said client, and wherein said client is adapted to save said state information for any specified range of Uniform Resource Locators.

33. The system of claim 32, further comprising means for forwarding said state information saved at said client to said intermediary application.

34. The system of claim 32, further comprising means for saving said state information for one or more other range of Uniform Resource Locators.

35. The system of claim 30, wherein said intermediary application is adapted to add said state information to a request for said server.

36. The system of claim 30, wherein said intermediary application is adapted to add said state information to a response for said client.

37. The system of claim 36, wherein said client is adapted to save said state information for a specified range of Uniform Resource Locators.

38. A system of electronic shopping, said system comprising:

means for selecting, by a purchaser, a plurality of items to be purchased electronically from a plurality of vendors, said plurality of vendors comprising a plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, but share state information through an intermediary application; and

means for purchasing said plurality of items on-line via a single check out, wherein an indication of said plurality of items to be purchased need not be moved, by said purchaser, between said plurality of vendors.

39. The system of claim 38, further comprising a shared shopping cart adapted to receive said selected plurality of items, said shared shopping cart being shared between said plurality of vendors.

40. The system of claim 39, wherein said shared shopping cart comprises one or more cookies representing said plurality of items to be purchased.

41. The system of claim 39, wherein the intermediary application is coupled to said plurality of vendors, said intermediary application adapted to associate said selected plurality of items with said shared shopping cart.

42. An article of manufacture, comprising:

at least one computer useable medium having computer readable program code means embodied therein for causing the sharing of state information, the computer readable program code means in said article of manufacture comprising:

computer readable program code means for causing a computer to determine by an intermediary

application state information to be shared between a first domain and a second domain; and

computer readable program code means for causing a computer to share said state information between said first domain and said second domain, wherein said first domain and said second domain are non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, said sharing of state information being through the intermediary application.

43. The article of manufacture of claim 42, wherein said state information is stored within one or more cookies.

44. The article of manufacture of claim 42, wherein said computer readable program code means for causing a computer to share comprises:

computer readable program code means for causing a computer to add state information of said first domain to a request to be sent to said second domain; and

computer readable program code means for causing a computer to send said request, including said state information, to said second domain.

45.   The article of manufacture of claim 42, wherein said computer readable program code means for causing a computer to share comprises:

computer readable program code means for causing a computer to add state information of said first domain to a response associated with said second domain; and

computer readable program code means for causing a computer to send said response, including said state information, to a client.

46.   The article of manufacture of claim 45, further comprising computer readable program code means for causing a computer to save said state information at said client, wherein said state information is saved for a specified range of Uniform Resource Locators associated with said second domain.

47.   An article of manufacture, comprising:

at least one computer useable medium having computer readable program code means embodied therein for causing the providing of state information, the computer readable program code means in said article of manufacture comprising:

computer readable program code means for causing a computer to determine by an intermediary application state information to be provided to at

least one of a client application (client) and a
server application (server); and

computer readable program code means for
causing a computer to use an intermediary
application, that is disposed to receive
transmissions exchanged between said client and
said server, to provide said state information to
said at least one of said client and said server.

48. The article of manufacture of claim 47, wherein
said state information is provided to said client, and
wherein said article of manufacture further comprises
computer readable program code means for causing a computer
to save said state information at said client for any
specified range of Uniform Resource Locators.

49. The article of manufacture of claim 48, further
comprising computer readable program code means for causing
a computer to save said state information for one or more
other range of Uniform Resource Locators.

50. At least one program storage device readable by a
machine, tangibly embodying at least one program of
instructions executable by the machine to perform a method
of electronic shopping, said method comprising:

selecting, by a purchaser, a plurality of items to
be purchased electronically from a plurality of
vendors, said plurality of vendors comprising a

plurality of non-cooperating domains, said non-cooperating domains having no knowledge of one another and wherein said non-cooperating domains do not directly communicate state information between one another, but share state information through an intermediary application; and

purchasing said plurality of items on-line via a single check out, wherein an indication of said plurality of items to be purchased need not be moved, by said purchaser, between said plurality of vendors.

51. The method of claim 1, wherein said non-cooperating domains do not share a proprietary protocol.

52. The system of claim 22, wherein said non-cooperating domains do not share a proprietary protocol.